CLAIMS

What Is Claimed Is:

1. A flexible surface lighting system comprising:

a base having a first hardness and a channel having opposing sides and a mount surface;

a first flange and a second flange having a second hardness, attached to opposing sides of the channel on the base; and,

a lens inserted into the channel and between the first and second flanges.

2. The flexible surface lighting system of Claim 1 further comprising a lens buffer attached to the mount surface and supporting the lens.

3. The flexible surface lighting system of Claim 2 where the lens buffer comprises a third hardness.

4. The flexible surface lighting system of Claim 1 where the first hardness is at least 94 Duro on the Shore OO scale.

5. The flexible surface lighting system of Claim 1 where the second hardness is less than the first hardness.

6. A flexible surface lighting system comprising:

a base extrusion of polyvinyl chloride having a first hardness and a channel having opposing sides and a mount surface;

a first flange extrusion and a second flange extrusion of polyvinyl chloride having a second hardness, attached to opposing sides of the channel on the base extrusion; and,

a lens inserted into the channel and between the first and second flange extrusions.

7. The flexible surface lighting system of Claim 6 where the first hardness is from 89-98 Duro on the Shore OO scale.

8. The flexible surface lighting system of Claim 7 where the second hardness is less than the first hardness.

9. The flexible surface lighting system of Claim 6 further comprising a butt seal inserted in the channel.

10. The flexible surface lighting system of Claim 6 where the base extrusion, first flange extrusion and second flange extrusion are co-extruded.

11. A flexible surface lighting system comprising:

a base extrusion having a first hardness and a channel having opposing sides and a mount surface;

at least two electrical leads in the channel;

a first flange extrusion and a second flange extrusion of polyvinyl chloride having a second hardness, attached to opposing sides of the channel on the base extrusion;

a lens inserted into the channel over the at least two leads and between the first and second flange extrusions; and,

an LED module comprising a circuit board secured to a module base; where the LED module is attached to at least two electrical leads in the channel below the lens; the circuit board having an LED and at least two contact teeth whereby each contact tooth makes electrical contact with one of the at least two electrical leads.

12. The flexible surface lighting system of Claim 11 where the at least two electrical leads further comprise a non-conductive sheath and where each contact tooth pierces the non-conductive sheath to make electrical contact with one of the at least two electrical leads.

13. The flexible surface lighting system of Claim 11 where a gasket with a thickness covers a side of the circuit board and where the at least two contact teeth traverse the thickness of the gasket to make electrical contact with the at least two electrical leads.

14. The flexible surface lighting system of Claim 11 where the module base further comprises a set of snap tabs whereby the circuit board is secured to the module base by snapping the circuit board onto the base by the set of snap tabs.

15. The flexible surface lighting system of Claim 14 where the circuit board further comprises a first support length and a second support length; where the first support length differs in length from the second support length; and where the set of snap tabs further comprise a first set of snap tabs separated by a first distance corresponding to the first support length and a second set of snap tabs separated by a second distance corresponding to the second support length.